

CLAIMS

1. A film deposition method comprising:

a first step of preparing a fluid that has organic metal as a main component which precipitates a film deposition material using pyrolytic decomposition;

a second step of applying said fluid onto a to-be-processed body at a temperature within the non-reactive range of said organic metal;

a third step of heating said to-be-processed body to a predetermined temperature, and causing a pyrolytic decomposition reaction of said organic metal throughout said fluid that is applied onto said to-be-processed body to occur to form a film on said to-be-processed body.

2. The film deposition method mentioned in Claim 1, wherein said fluid comprises only said organic metal.

3. The film deposition method mentioned in Claim 1, wherein said organic metal is a copper diketonate and copper is deposited as a film.

4. The film deposition method mentioned in Claim 1, wherein said fluid comprises a fluid that is a mixture of said organic metal and a solvent thereof.

5. The film deposition method mentioned in Claim 4, wherein said organic metal is a copper diketonate, said solvent is an aliphatic saturated hydrocarbon, and copper is deposited as a film.

6. The film deposition method mentioned in Claim 1, wherein said to-be-processed body is a semiconductor wafer.

7. A film deposition apparatus comprising:

5 a supply means, which supplies an organometallic fluid that has organic metal as a main component that precipitates a film deposition material through a pyrolytic decomposition reaction;

10 an application means, which applies an organometallic fluid that is supplied from said supply means onto a to-be-processed body; and

15 a heating means, which heats a to-be-processed body to a predetermined temperature; wherein said heating means heats the to-be-processed body after the application of organometallic fluid by said application means.

8. The film deposition apparatus mentioned in Claim 7, comprising:

20 a first process chamber, which is provided inside said application means;

 a second process chamber, which is provided inside said heating means; and

25 a carrying means, which transports the to-be-processed body from said first process chamber to said second process chamber.

9. The film deposition apparatus mentioned in Claim

7, comprising a single process chamber wherein said application means and said heating means are provided.

10. The film deposition apparatus mentioned in Claim

9, comprising a transfer means, which transfers a

5 to-be-processed body from a first area to a second

area, wherein, said first area, in which application

using said application means is performed, and said

second area, in which heating using said heating means

is performed, are provided inside said process

10 chamber.

TECEET